

**Listing of the Claims:**

1. **(currently amended)** A ceramic article having a composition comprising u ( $\text{Al}_2\text{O}_3$ - $\text{TiO}_2$ ) + v (R) + w ( $3\text{Al}_2\text{O}_3-2\text{SiO}_2$ ) + x ( $\text{Al}_2\text{O}_3$ ) + y ( $\text{SiO}_2$ ) + z ( $1.1\text{SrO}-1.5\text{Al}_2\text{O}_3-13.6\text{SiO}_2-\text{TiO}_2$ ) + a ( $\text{Fe}_2\text{O}_3-\text{TiO}_2$ ) + b ( $\text{MgO}-2\text{TiO}_2$ ), where, R is  $\text{SrO-Al}_2\text{O}_3-2\text{SiO}_2$  or  $11.2\text{SrO}-10.9\text{Al}_2\text{O}_3-24.1\text{SiO}_2-\text{TiO}_2$ , where u, v, w, x, y, z, a and b are weight fractions of each component such that  $(u+v+w+x+y+z+a+b=1)$ , and  $0.5 < u \leq 0.95$ ,  $0.01 < v \leq 0.5$ ,  $0.01 < w \leq 0.5$ ,  $0 < x \leq 0.5$ ,  $0 < y \leq 0.1$ ,  $0 < z \leq 0.5$ ,  $0 < a \leq 0.3$ , and  $0 < b \leq 0.3$ .  $0.5 < u \leq 0.95$ ,  $0.01 < v \leq 0.5$ ,  $0.01 < w \leq 0.5$ ,  $0 < x \leq 0.5$ ,  $0 < y \leq 0.1$ ,  $0 < z \leq 0.5$ ,  $0 < a \leq 0.3$ , and  $0 < b \leq 0.3$ .
2. (original) The ceramic article of claim 1 wherein R is  $\text{SrO-Al}_2\text{O}_3-2\text{SiO}_2$ .
3. (original) The ceramic article of claim 1 wherein R is  $11.2\text{SrO}-10.9\text{Al}_2\text{O}_3-24.1\text{SiO}_2-\text{TiO}_2$ .
4. (original) The ceramic article of claim 1 having a CTE, as measured from room temperature to  $800^\circ\text{C} - 1000^\circ\text{C}$  of less than  $45 \times 10^{-7}/^\circ\text{C}$ .
5. (original) The ceramic article of claim 4 having a CTE, as measured from room temperature to  $800^\circ\text{C} - 1000^\circ\text{C}$  of less than  $25 \times 10^{-7}/^\circ\text{C}$ .
6. (original) The ceramic article of claim 5 having a CTE, as measured from room temperature to  $800^\circ\text{C} - 1000^\circ\text{C}$  of less than  $5 \times 10^{-7}/^\circ\text{C}$ .
7. (original) The ceramic article of claim 1 having a porosity of up to 60% by volume.
8. (original) The ceramic article of claim 7 having a porosity of up to 45% by volume.
9. **(currently amended)** The ceramic article of claim 8 having a porosity of up to 55% by volume.
10. (original) The ceramic article of claim 1 having a median pore size of up to 25 micrometers.

11. (original) The ceramic article of claim 10 having a median pore size of up to 20 micrometers.
12. (original) The ceramic article of claim 11 having a median pore size of up to 15 micrometers.
13. (original) The ceramic article of claim 1 having a four-point modulus of rupture as measured on a solid rod of circular cross section of greater than 400 pounds per inch (psi).
14. (original) The ceramic article of claim 13 having a four-point modulus of rupture as measured on a solid rod of circular cross section of greater than 700 psi.
15. (original) A diesel particulate filter comprising the ceramic article of claim 1 and a plugged, wall-flow honeycomb filter body comprising a plurality of parallel end-plugged cell channels traversing the body from a frontal inlet end to an outlet end thereof.
16. (original) The diesel particulate filter of claim 15 wherein the ceramic article has a composition comprising  $u (Al_2O_3-TiO_2) + v (R) + w (3Al_2O_3-2SiO_2) + x (Al_2O_3) + y (SiO_2) + z (1.1SrO-1.5Al_2O_3-13.6SiO_2-TiO_2) + a (Fe_2O_3-TiO_2) + b (MgO-2TiO_2)$ , where, R is  $SrO-Al_2O_3-2SiO_2$  or  $11.2SrO-10.9Al_2O_3-24.1SiO_2-TiO_2$ , where  $u, v, w, x, y, z, a$  and  $b$  are weight fractions of each component such that  $(u+v+w+x+y+z+a+b=1)$ , and  $u = 0.6965, v = 0.225, w = 0.075, x = 0, y = 0, z = 0, a = 0.0035$ , and  $b = 0$ .
17. (original) The diesel particulate filter of claim 16 having a CTE, as measured from room temperature to  $800^{\circ}C - 1000^{\circ}C$  of less than  $15 \times 10^{-7}/^{\circ}C$ .
18. (original) The diesel particulate filter of claim 17 having a CTE, as measured from room temperature to  $800^{\circ}C - 1000^{\circ}C$  of less than  $5 \times 10^{-7}/^{\circ}C$ .
19. (original) The diesel particulate filter of claim 16 having a porosity of 30% to 50% by volume.

20. (original) The diesel particulate filter of claim 19 having a porosity of 35% to 45% by volume.
21. (original) The diesel particulate filter of claim 16 having a median pore size of 5 to 25 micrometers.
22. (original) The diesel particulate filter of claim 21 having a median pore size of 10 to 15 micrometers.
23. (original) The diesel particulate filter of claim 16 having a modulus of rupture as measured by on a cellular bar having a cell density of 200 cpsi and 0.016 inch thick walls, of 150 to 400 psi.
24. (original) The diesel particulate filter of claim 23 having a modulus of rupture as measured by on a cellular bar having a cell density of 200 cpsi and 0.016 inch thick walls of 150 to 300 psi.
25. (original) The diesel particulate filter of claim 16 having a permeability of at least  $0.20 \times 10^{-12} \text{ m}^2$ .
26. (original) The diesel particulate filter of claim 25 having a permeability of at least  $0.33 \times 10^{-12} \text{ m}^2$ .
27. (original) The diesel particulate filter of claim 16 having a pressure drop of 5 kPa or less at an artificial carbon soot loading of up to 5 g/L and a flow rate of 210 standard cubic feet per minute (scfm) for a cell density of 273 cells per square inch and a cell wall thickness of about 0.015 inches.
28. (**currently amended**) A method of making an aluminum titanate-based ceramic body comprising:
  - (a) formulating a batch of inorganic raw materials comprising sources of silica, alumina, strontium, titania, and/or iron oxide together with organic processing comprising plasticizers, lubricants, binders, and water as solvent, and mixing to form a homogeneous and plasticized mixture;

(b) shaping the plasticized mixture into a green body;

(c) heating the green body at 20-40°C/hr over various temperature intervals with hold temperature and times between 1100°-1650°C for a period of 30-50 hours to develop a ceramic having a composition comprising  $u$  ( $\text{Al}_2\text{O}_3$ - $\text{TiO}_2$ ) +  $v$  (R) +  $w$  ( $3\text{Al}_2\text{O}_3$ - $2\text{SiO}_2$ ) +  $x$  ( $\text{Al}_2\text{O}_3$ ) +  $y$  ( $\text{SiO}_2$ ) +  $z$  ( $1.1\text{SrO}$ - $1.5\text{Al}_2\text{O}_3$ - $13.6\text{SiO}_2$ - $\text{TiO}_2$ ) +  $a$  ( $\text{Fe}_2\text{O}_3$ - $\text{TiO}_2$ ) +  $b$  ( $\text{MgO}$ - $2\text{TiO}_2$ ), where, R is  $\text{SrO}$ - $\text{Al}_2\text{O}_3$ - $2\text{SiO}_2$  or  $11.2\text{SrO}$ - $10.9\text{Al}_2\text{O}_3$ - $24.1\text{SiO}_2$ - $\text{TiO}_2$ , where  $u$ ,  $v$ ,  $w$ ,  $x$ ,  $y$ ,  $z$ ,  $a$  and  $b$  are weight fractions of each component such that  $(u+v+w+x+y+z+a+b=1)$ , and  $0.5 < u \leq 0.95$ ,  $0.01 < v \leq 0.5$ ,  $0.01 < w \leq 0.5$ ,  $0 < x \leq 0.5$ ,  $0 < y \leq 0.1$ ,  $0 < z \leq 0.5$ ,  $0 < a \leq 0.3$ , and  $0 < b \leq 0.3$ .  
 $0.5 < u \leq 0.95$ ,  $0.01 < v \leq 0.5$ ,  $0.01 < w \leq 0.5$ ,  $0 < x \leq 0.5$ ,  $0 \leq y \leq 0.1$ ,  $0 \leq z \leq 0.5$ ,  $0 < a \leq 0.3$ , and  $0 < b \leq 0.3$ .

29. (original) The method of claim 28 wherein the heating is between 1100°-1500°C.

30. (original) The method of claim 28 wherein the shaping is done by extrusion.

31. (original) The method of claim 30 wherein the plasticized mixture is extruded into a honeycomb green body.

32. (original) The method of claim 28 wherein the ceramic has a composition comprising  $u$  ( $\text{Al}_2\text{O}_3$ - $\text{TiO}_2$ ) +  $v$  (R) +  $w$  ( $3\text{Al}_2\text{O}_3$ - $2\text{SiO}_2$ ) +  $x$  ( $\text{Al}_2\text{O}_3$ ) +  $y$  ( $\text{SiO}_2$ ) +  $z$  ( $1.1\text{SrO}$ - $1.5\text{Al}_2\text{O}_3$ - $13.6\text{SiO}_2$ - $\text{TiO}_2$ ) +  $a$  ( $\text{Fe}_2\text{O}_3$ - $\text{TiO}_2$ ) +  $b$  ( $\text{MgO}$ - $2\text{TiO}_2$ ), where, R is  $\text{SrO}$ - $\text{Al}_2\text{O}_3$ - $2\text{SiO}_2$  or  $11.2\text{SrO}$ - $10.9\text{Al}_2\text{O}_3$ - $24.1\text{SiO}_2$ - $\text{TiO}_2$ , where  $u$ ,  $v$ ,  $w$ ,  $x$ ,  $y$ ,  $z$ ,  $a$  and  $b$  are weight fractions of each component such that  $(u+v+w+x+y+z+a+b=1)$ , and  $u = 0.6965$ ,  $v = 0.225$ ,  $w = 0.075$ ,  $x = 0$ ,  $y = 0$ ,  $z = 0$ ,  $a = 0.0035$ , and  $b = 0$ .

33. (new) A ceramic article having a composition comprising  $\text{Al}_2\text{O}_3$ - $\text{TiO}_2$ ,  $3\text{Al}_2\text{O}_3$ - $2\text{SiO}_2$ , and  $\text{SrO}$ - $\text{Al}_2\text{O}_3$ - $2\text{SiO}_2$ .